



**NOAA**  
**FISHERIES**

Office of Science  
and Technology  
Silver Spring, MD

# U.S. National Observer Program and Regional Electronic Technology Implementation Plans for 2016 -2018

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**Council Member Training**

**Silver Spring MD**

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# Presentation Overview

National and regional observer programs

Budget

Regional Electronic Technologies Implementation Plans

- Electronic monitoring
- Electronic reporting

Future challenges

Legend  
— US Exclusive Economic Zone (EEZ)

# National Observer Program (1999)

## Mission

Provide a formalized mechanism for NOAA Fisheries to address observer issues of national importance and to develop policies and procedures to ensure that NOAA Fisheries observers and observer programs are fully supported. The policies must reflect the diverse needs of regional observer programs while enhancing data quality and achieving consistency in key areas of national importance.

## Objectives

- Coordinate the National Observer Program Advisory Team.
- Communicate and advocate the mission of the National Observer Program and each regional observer program.
- Develop and support national standards and policies to create high quality, cost effective, efficient, and productive observer programs.
- Characterize and qualify the activities and resources of NOAA Fisheries observer programs and advocate for full support

**Deploys 900 observers / 79,000 sea days / 48 fisheries**

# Activities

<b>Enhancements to Data Quality and Data Collection Procedures</b>	To develop and evaluate Agency initiatives to improve the quality of observer data from regional observer programs.
	To evaluate the procedures for collection of observer data, including the review of data collection methodologies and bycatch estimation procedures.
	To develop technological and methodological enhancements to improve data collection techniques.
	To enhance the quality of data collected by observers through development of national standards for the collection, management, and distribution of observer data.
	To enhance integration of observer data with other data collection programs such as logbooks, VMS, and landing reports.
	To develop and update a national bycatch report for documentation of regional and national bycatch estimates and estimation procedures, identification of gaps in coverage, and input into strategic planning processes.
<b>Policy Development</b>	To identify amendments under the Magnuson-Stevens Fishery Conservation and Management Act, Marine Mammal Protection Act, Endangered Species Act, and other federal legislation necessary to support observer program activities.
	To develop national policies on issues of national concern to observer programs, such as hiring and training observers, observer safety and health, and data confidentiality.
<b>Observer Support</b>	<b>To recognize and support the needs of observers so that they are able to collect high quality scientific data.</b>
	<b>To communicate NOP activities of interest to the observer community</b>
<b>Program Enhancements</b>	To identify the agency's highest priorities for observer data collection and make recommendations on how observer programs can fulfill those needs.
	To review regional observer programs and make recommendations on how to improve program operations and administration
	To review the cost efficiency and effectiveness of observer program operations.
<b>Outreach and Education</b>	To communicate the goals and objectives of NOAA Fisheries observer programs at a national level.
	To support and coordinate the outreach activities of regional observer programs.
	To formalize working relationships between observer programs and other state/federal agencies and organizations.
<b>International</b>	To support and participate in the International Fisheries Observer Conference.
	To maintain an awareness of observer programs worldwide.
	To assist other NOAA Fisheries offices with international observer-related issues.

# Responsibilities of National Program

## Advisory Team (Steering Committee)

- Sets overall priorities, policies, and budget

## Safety Advisory Committee

- Provides guidance to the NOPAT to ensure the well-being and safety of observers

## Program Management Office

- Manages day-to-day operations, policy development, budgets, etc.
- Chairs/Co-Chairs:
  - Electronic Technologies Working Group
  - National Bycatch Report Steering Committee
  - National Bycatch Strategy Team

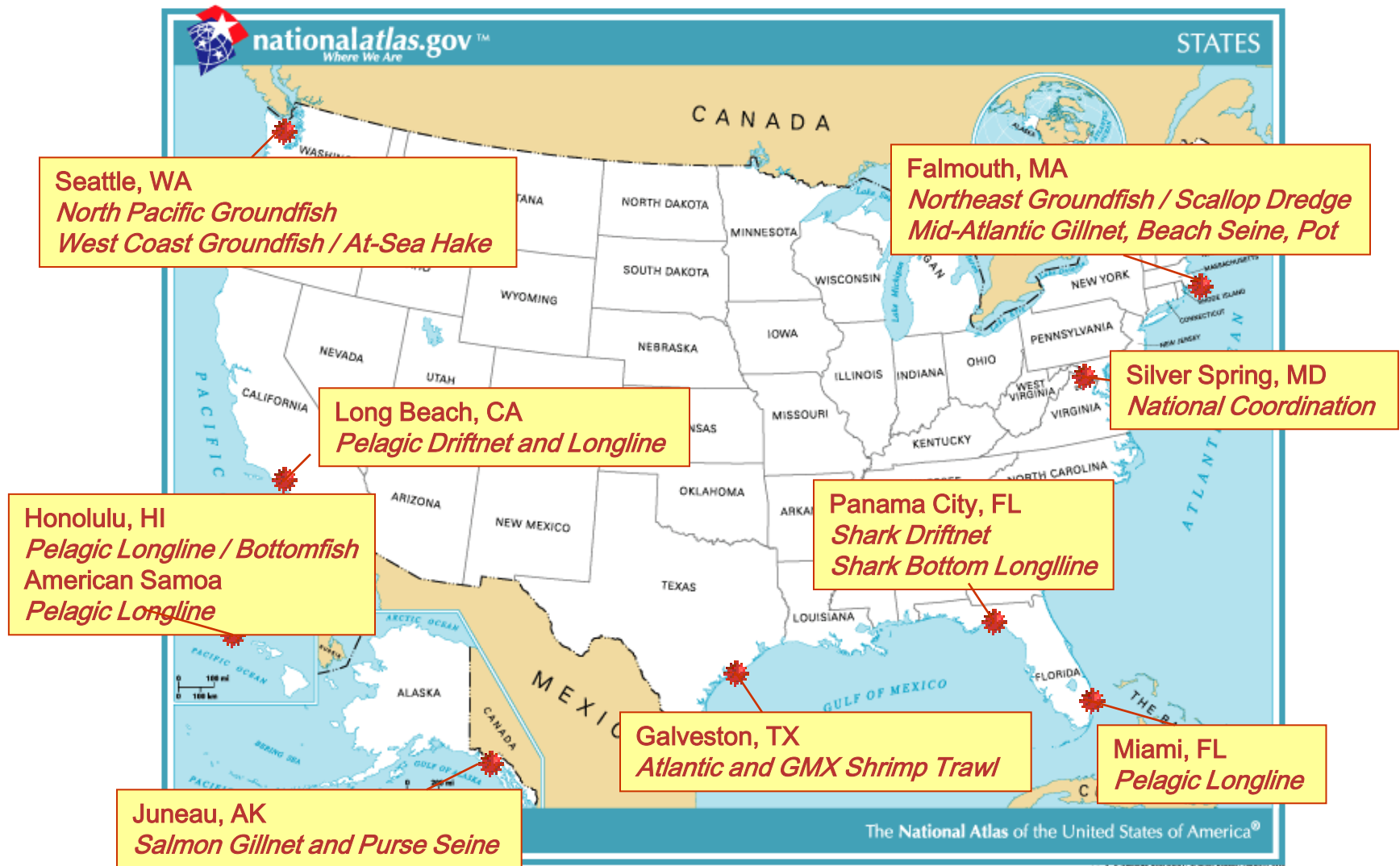
# Responsibilities of Regional Observer Programs

- Sampling protocols and coverage levels
- Safety training
- Observer deployment
- Observer debriefing
- Data management
- Data analysis





# Headquarters of Regional Observer Programs



# Atlantic Ocean and Gulf of Mexico 2013 coverage





# North Pacific (Alaska) 2013 coverage

**Bering Sea/Aleutian Islands/  
Gulf of Alaska cooperatives**

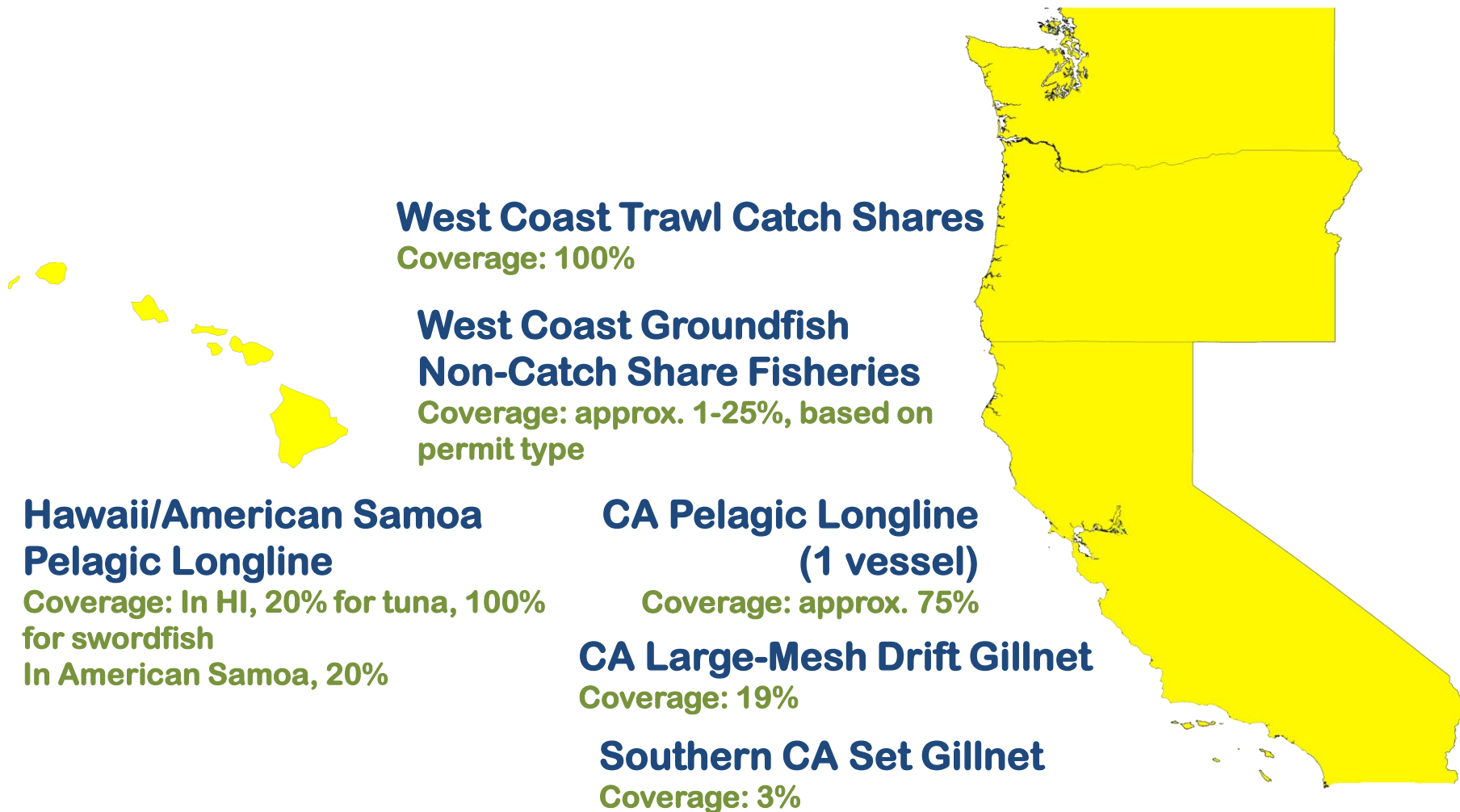
**Coverage: 100%**



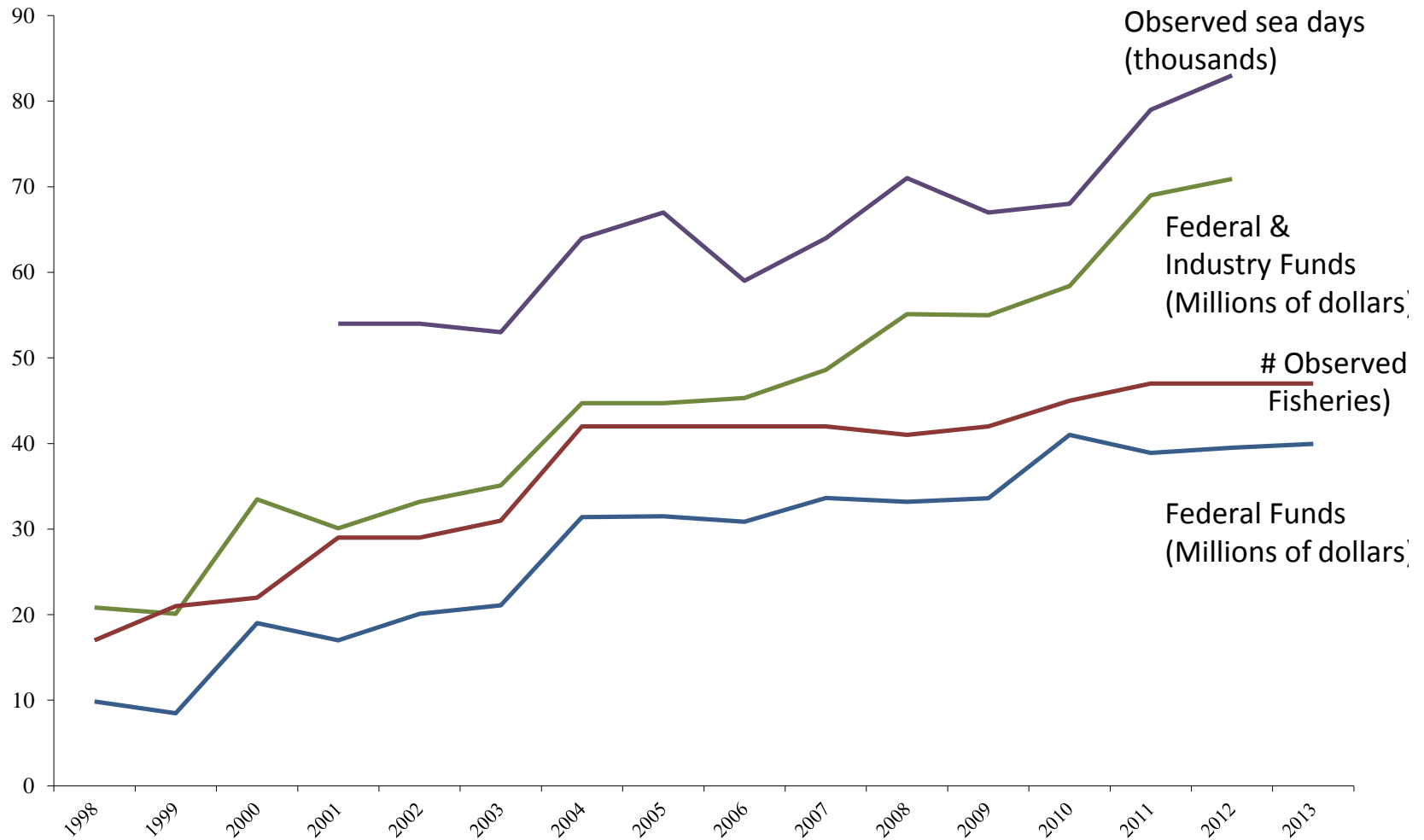
**Bering Sea/Aleutian Islands/  
Gulf of Alaska Groundfish & Halibut  
Trawl/Longline/Pot**

**Coverage: 10-14%**

# Pacific Ocean and Western Pacific 2013 coverage



# National Observer Program Budget



# FY 2015 Observer Budget

(\$ in Thousands)	FY 2015 Available
<b>PPA: Observers and Training:</b>	
Atlantic Coast Observers	\$3,334
East Coast Observers	\$333
Hawaii Longline Observer Program	\$3,775
North Pacific Observer Program	\$5,566
NE Fisheries Observers	\$8,226
National Observer Program	\$12,305
S. Atlantic/Gulf Shrimp Observers	\$1,751
West Coast Observers	\$4,807
<b>Subtotal, Observers/Training PPA</b>	<b>\$40,097</b>
<b>PPA: Reducing Bycatch - Observers Portion Only</b>	<b>\$651</b>
<b>Total Observers Funding</b>	<b>\$40,748</b>

FY 2015 Enacted amount for Observers and Training is \$43.0 million. FY 2015 Available funding shown above include reductions for Hollings Rescission, Prior year De-obligations, and HQ administrative costs.

# FY 2015 Observer Budget by Region

(\$ in Thousands)	FY 2015	North East	South East	West Coast	North West	Alaska	Pacific Islands	Sci. & Tech.
<b>PPA: Observers and Training:</b>								
Atlantic Coast Observers	\$3,334	\$1,473	\$1,812	\$0	\$0	\$0	\$0	\$49
East Coast Observers	\$333	\$0	\$333	\$0	\$0	\$0	\$0	\$0
Hawaii Longline Observer Program	\$3,775	\$0	\$0	\$0	\$0	\$0	\$3,775	\$0
North Pacific Observer Program	\$5,566	\$0	\$0	\$0	\$0	\$5,566	\$0	\$0
NE Fisheries Observers	\$8,226	\$8,226	\$0	\$0	\$0	\$0	\$0	\$0
National Observer Program	\$12,305	\$5,039	\$1,036	\$1,039	\$958	\$1,556	\$2,085	\$592
<i>Electronic Monitoring/Reporting</i>	<i>[\$900]</i>	<i>[\$0]</i>	<i>[\$56]</i>	<i>[\$174]</i>	<i>[\$200]</i>	<i>[\$375]</i>	<i>[\$95]</i>	<i>[\$0]</i>
S. Atlantic/Gulf Shrimp Observers	\$1,751	\$0	\$1,751	\$0	\$0	\$0	\$0	\$0
West Coast Observers	\$4,807	\$0	\$0	\$0	\$4,807	\$0	\$0	\$0
<b>Subtotal, Observers/Training PPA</b>	<b>\$40,097</b>	<b>\$14,738</b>	<b>\$4,932</b>	<b>\$1,039</b>	<b>\$5,765</b>	<b>\$7,122</b>	<b>\$5,860</b>	<b>\$641</b>
<b>PPA: Reducing Bycatch - Observers Portion</b>	<b>\$651</b>	<b>\$94</b>	<b>\$94</b>	<b>\$94</b>	<b>\$94</b>	<b>\$94</b>	<b>\$94</b>	<b>\$87</b>
<b>TOTAL</b>	<b>\$40,748</b>	<b>\$14,832</b>	<b>\$5,026</b>	<b>\$1,133</b>	<b>\$5,859</b>	<b>\$7,216</b>	<b>\$5,954</b>	<b>\$728</b>

FY 2015 Enacted amount for Observers and Training is \$43.0 million. FY 2015 Available funding shown above include reductions for Hollings Rescission, PY De-obligations, and HQ administrative costs.

# National Observer Program Budget

## Directed Funding

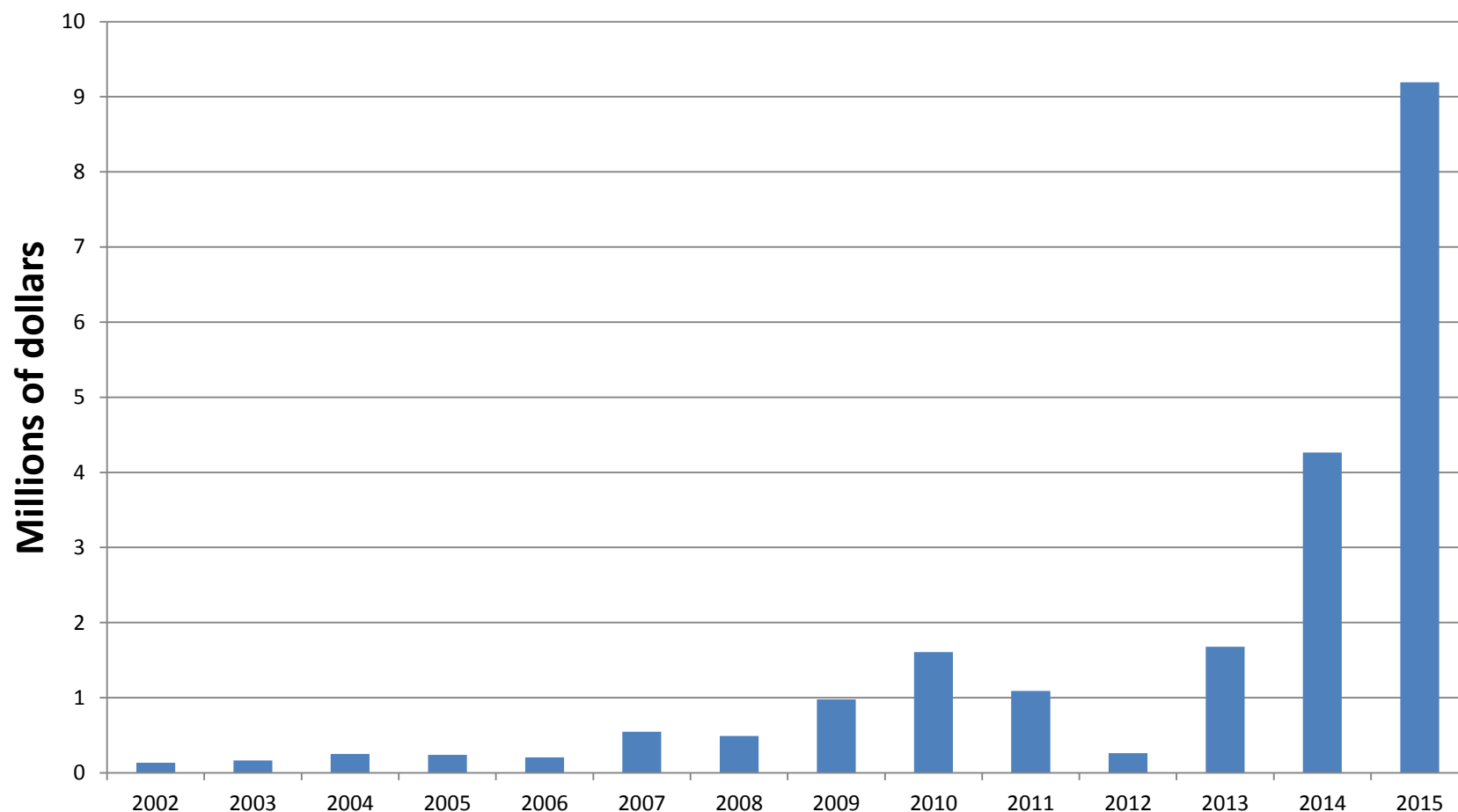
- Maintain historical funding levels of regional observer programs
- Equal distribution of portion of funds to regional observer programs
- Seabird Bycatch Research
- Program office, two Advisory Team meeting Support, and travel

## Annual Request for Proposal for Electronic Monitoring/ Reporting projects

- Internal RFP process
- Advisory Team reviews and approves RFP
- ST Director announces RFP
- Advisory Team selects proposals to fund
- Awards are issued after Congress approves Federal Budget



# Electronic Technologies Budget (all sources)



# Regional Electronic Technologies Implementation Plans

## Electronic Reporting (ER) & Electronic Monitoring (EM)

	Pacific Islands	Alaska	West Coast	Southeast	Greater Atlantic	Atlantic Highly Migratory
ER in place						
new ER in next 2 years			all fisheries			
future ER for observers						
EM in place		4 fisheries				
New EM in next 1-2 years			Groundfish 2015		Groundfish 2016	
New EM in 3-5 years		Small boat / fixed gear 2018	Groundfish 2016, Drift Gillnet Fishery 2018	Shrimp to monitor for sawfish 2018	Herring & Makcerel 2017	
VMS in place						
Future VMS plans						
Private angler recreational fishing			2018-2020			
For-hire fishery			2018-2020			
Cost estimates						
Costs addressed generally						
Cost share components			groundfish FMP	shrimp ER		
Fishery dependent data modernization				future plan	2017	
ER for biological data						

## What's in the Plans – Rec. Fisheries

	PIRO	AKRO	WCRO	SERO	GARFO	AHMS
Does the plan address private angler rec. fishing	no	no	2018-2020: consider ET projects for monitoring and sampling	yes	no	yes
Does the plan address for-hire fishing	no	no	2018-2020: consider ET projects for monitoring and sampling	yes	no	yes

# What's in the Plans – Cost estimates & Cost Share

	PIRO	AKRO	WCRO	SERO	GARFO	AHMS
Cost estimates	yes	yes	yes	yes	no, EM cost analysis in development	yes
Cost share components	no	yes	yes, groundfish	yes, shrimp ER	no	no

## What's in the Plans - ER

	PIRO	AKRO	WCRO	SERO	GARFO	AHMS
<b>ER in place</b>	yes, HDAR program	yes	yes	yes	yes	yes
<b>ER now to next 2 years</b>	yes	yes, expansion to additional state fisheries	yes, expansion to all fisheries	yes	no	yes
<b>future ER for observers</b>	yes	yes, expansion to additional state fisheries	yes	yes	yes	N/A
<b>FDD modernization process</b>	N/A	N/A	N/A	future plan	yes, implementation 2017	N/A

# Electronic Reporting in 29 FMPs

Pacific Islands	Alaska	West Coast	Southeast	Greater Atlantic	Atlantic Highly Migratory
Hawaii Archipelago Fishery Ecosystem Plan (FEP)	Bering Sea and Aleutian Islands Groundfish	Pacific Coast Groundfish	Golden Crab	Atlantic Sea Scallop	Atlantic Highly Migratory Species
American Samoa Archipelago FEP	Gulf of Alaska Groundfish	West Coast Highly Migratory Species	Snapper-Grouper	Northeast Multispecies (Groundfish)	
Mariana Archipelago FEP	Bering Sea/Aleutian Islands King and Tanner Crabs		Coastal Migratory Pelagic (Jointly managed with with GMFMC)	Northeast Skate Complex	
Pacific Remote Island Areas FEP	Salmon		Reef Fish	Atlantic Herring	
Pacific Pelagics FEP				Deep-Sea Red Crab	
				Monkfish	
				Atlantic Salmon	
				Spiny Dogfish	
				Summer flounder, Scup and Black Sea Bass	
				Atlantic Bluefish	
				Atlantic Surfclam and Ocean Quahog	
				Atlantic Mackerel, Squid, and Butterfish	
				Tilefish	



# FY15 Request for Proposals (RFP)

Electronic Reporting Project Name	FMC	Fisheries Information Systems funding	National Observer Program funding
Upgrading to an Electronic Reporting and Monitoring System in the CNMI: a pilot project	CNMI		\$95,000
NWFSC Observer Program Technology Enhanced Collection System (OPTECS)	NWFSC		\$200,158
Upgrade the Oregon Commercial Fishery Biological Data System	OR DFW	\$65,701	
Data Transfer Application for Longline Monitoring Observer Program Database	SEFSC		\$55,500
Pilot Study to Test Electronic Reporting Via Vessel Monitoring Systems in the Gulf of Mexico Headboat Fishery	SERO	\$31,000	
Highly Migratory Species Catch and Release Smartphone App and Webpage	SWFSC	\$30,000	
Washington Commercial Fisheries Database Redesign and Electronic Fish Ticket Expansion Phase II	WDFW	\$154,085	
Testing Recreational Electronic Data Capture: Phase Two	WDFW	\$120,600	
<b>Total Electronic Reporting Development and Implementation</b>	<b>\$1,451,044</b>	<b>\$401,386</b>	<b>\$350,658</b>

## What's in the Plans – EM & VMS

	PIRO	AKRO	WCRO	SERO	GARFO	AHMS
EM in place	no	yes (4)	no	no	no	Longline fishery 1 June 2015
New EM now to 2 years	no	yes (1)	yes (4)	no	yes (1)	yes
New EM in 3-5 years	no	yes	yes	no	yes	yes
VMS in place	yes (6)	yes (6)	yes (2)	yes (4)	yes (6)	yes (1)
Future VMS plans	no	no	yes	yes	no	yes, increased reporting, system review

# Electronic Monitoring in 5 Fisheries

Pacific Islands	Alaska	West Coast	Southeast	Greater Atlantic	Atlantic Highly Migratory
	American Fisheries Act Pollock Catcher/Processor and Mothership				Atlantic Tunas with pelagic longline gear onboard
	Bering Sea and Aleutian Island (BSAI) non-Pollock Trawl Catcher/Processor				
	Central Gulf of Alaska Rockfish Trawl Catcher/Processor				
	BSAI Pacific Cod Longline Catcher/Processor				
	Small boat, fixed gear fleet (2018)	Groundfish (2016)	Shrimp (2018)	Groundfish (2016)	
		Drift Gillnet (2018)		Atlantic Herring/ Mackerel (2017)	

# Vessel Monitoring Systems in 25 Fisheries

Pacific Islands	Alaska	West Coast	Southeast	Greater Atlantic	Atlantic Highly Migratory Species
Hawaii Archipelago FEP	All vessels fishing under federal permits in the Aleutian islands sub-area	Pacific Coast Groundfish	Rock Shrimp Endorsement Holders (Trawl)	Atlantic Sea Scallop - Limited access and General Category	Atlantic Highly Migratory Species
American Samoa FEP	Gulf of Alaska fisheries using bottom contact gear for: Atka mackerel, pollock, Pacific Cod, rockfish, sablefish	California Drift Gillnet Fishery	Highly Migratory Species (Pelagic Longline)	Northeast Multispecies - Limited Access	
Mariana Archipelago FEP	BSAI King and Tanner Crab		Shark (Gillnet and Bottom Longline Gear)	Monkfish - Limited Access Offshore Fishery Program permit	
Pacific Pelagic FEP			Gulf Reef Fish	Atlantic Herring	
Pacific Remote Island Areas FEP				Surfclam/Ocean Quahog/Maine Mahogany Quahog	
Papahānaumokuākea Marine Monument				Squid, Atlantic Mackerel, and Butterfish (effective September 1, 2014)	
WCPFC Convention Area and other areas/vessels				Northwest Atlantic Fisheries Organization (NAFO)	

# FY15 Request for Proposals (RFP)

Electronic Monitoring Project Name	FMC	Fisheries Information Systems funding	National Observer Program funding	Catch Share Program funding
Pre-implementation of EM/ER in the North Pacific	AFSC		\$375,505	
Image Data Collection	AFSC	\$78,113		
Operationalizing Electronic Monitoring in the West Coast Groundfish Catch Share Program-California Risk Pool Project	CA+WCR et al.		\$174,180	
Development of a cost-effective electronic monitoring system for observing the take of protected species in southeast coastal gillnet fisheries	SEFSC	\$181,000		
Greater Atlantic Region Electronic Monitoring Implementation Project	GARFO			\$500,000
Deploying Electronic Monitoring and Reporting in the West Coast Drift Gillnet Fishery for Swordfish	WCR	\$241,380		
<b>Total Electronic Monitoring Technology Development</b>	<b>\$1,050,078</b>	<b>\$500,493</b>	<b>\$549,685</b>	<b>\$500,000</b>

# Overview of Electronic Monitoring

EM (video monitoring) purposes include:

- **Compliance monitoring** – are regulations being followed (fishery and protected species)
- **Management** – data to support real-time management (individual vessel quotas, catch limits)
- **Scientific data collection** – assessments, socioeconomic, ecological and ecosystem, research & bycatch reporting.

NOAA Fisheries has funded 30 EM pilot projects.

All EM pilot funds ~ \$21M





# EM Lessons Learned (So Far . . .)

- Potential Benefits
  - Suitability across a wide range of vessel sizes
  - Compliance tool for monitoring requirements or prohibitions
  - Fully integrated data collection tools that can create a profile of fishing activity at sea
  - Potentially lower costs (*yet to be determined*)
  - 24/7 operation on many vessels
- Challenges
  - Species identification
  - Estimating weights of discarded species
  - Archiving and storing huge amounts of data
  - Costs and time delays associated with analysis of EM data
  - Regulatory and operational constraints, including enforcement

# Future Challenges

- Flat federal budget does not allow for increased observer coverage.
- Pressure to implement electronic monitoring programs.
- Lack of consistency in industry funding of observer programs (and possibly electronic monitoring) around the United States.







# Thank You! Questions?

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